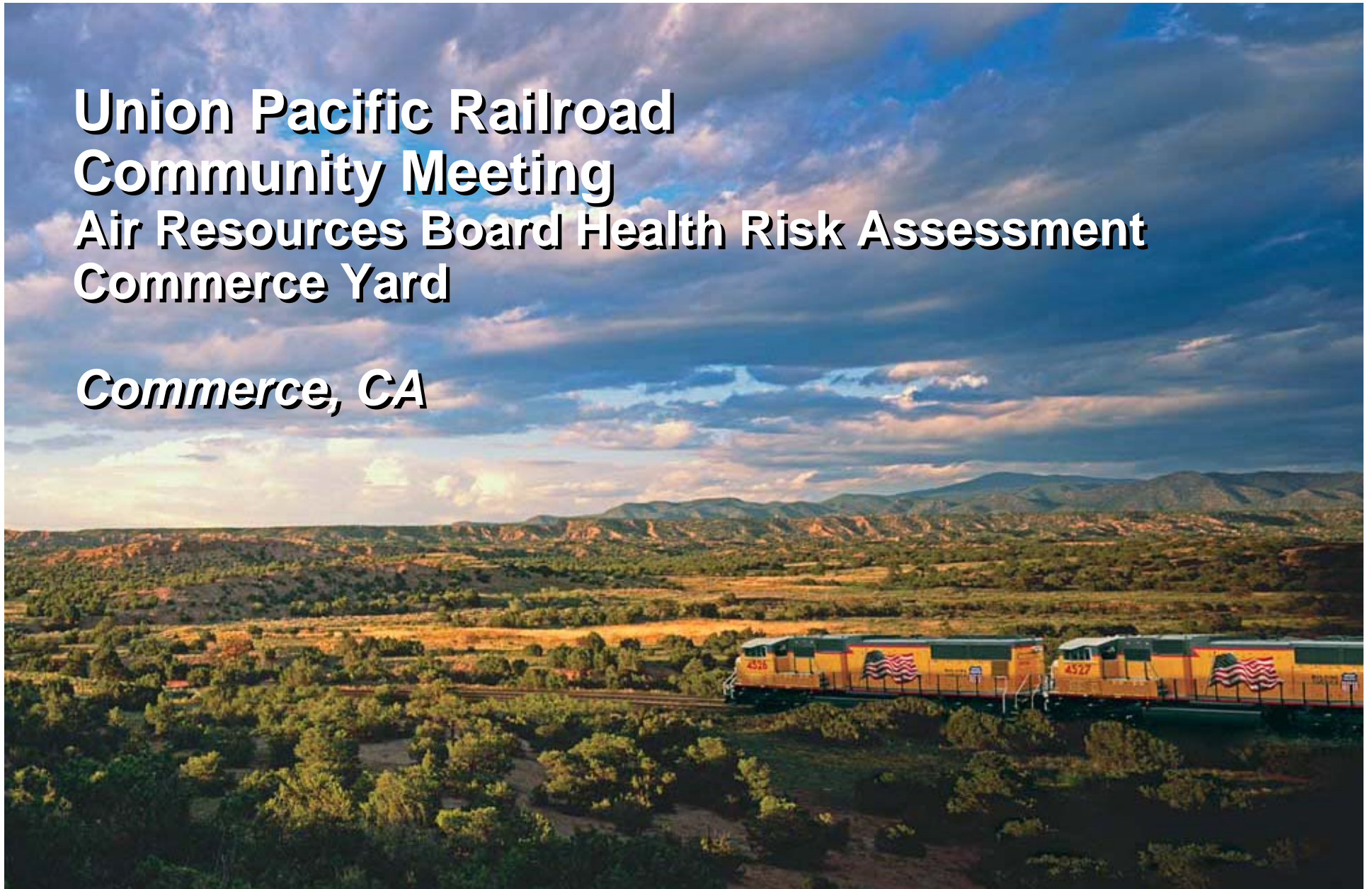


Union Pacific Railroad Community Meeting Air Resources Board Health Risk Assessment Commerce Yard

Commerce, CA



May 23, 2007

Lanny Schmid, *Director – Environmental Operations*

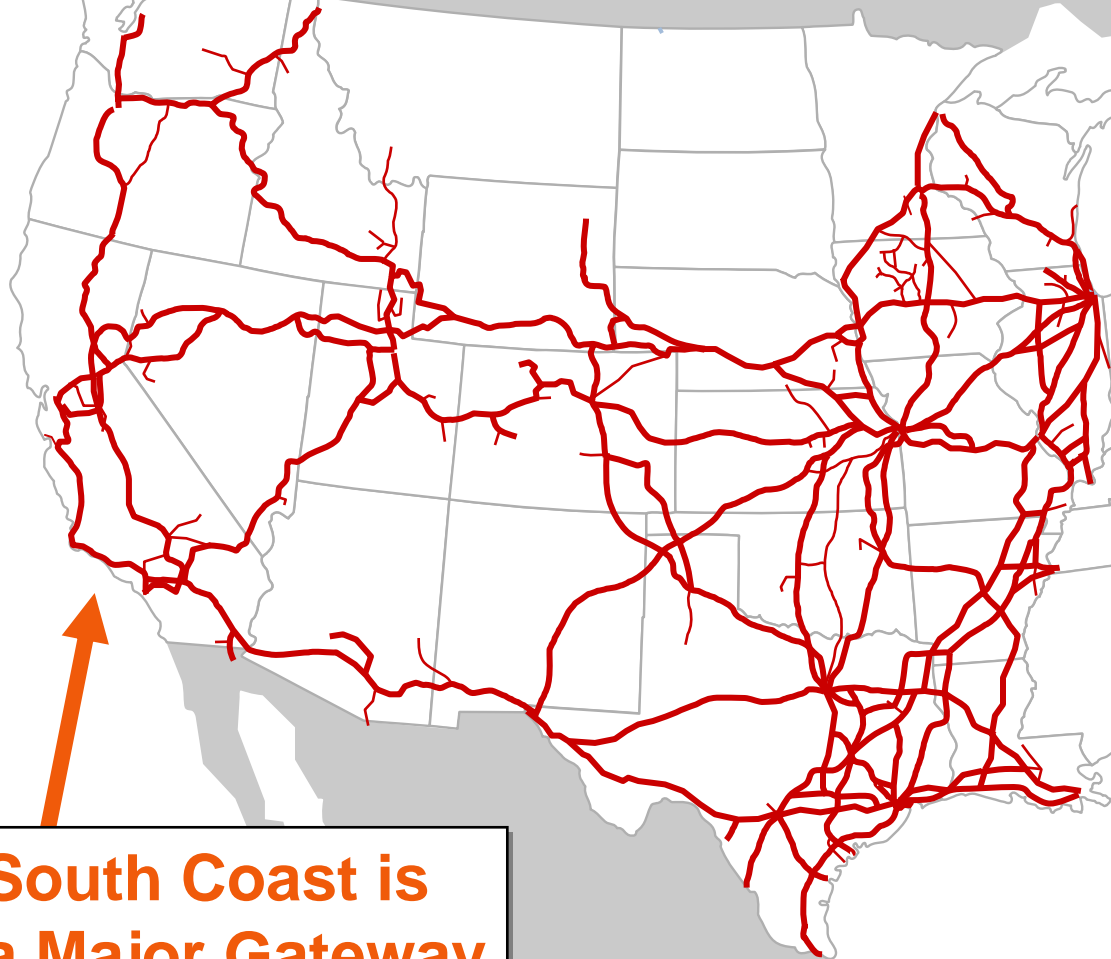
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UPRR Commerce Yard

- **Facility Overview**
- **Sources of Emissions**
- **Comparison with Air Basin and Other Area Emissions**
- **Emission Reduction Measures**
- **Emission Trends – Past and Future**

Union Pacific System Overview



**South Coast is
a Major Gateway**

Fast Facts

- **Miles of Track**
 - 32,300 in 23 States
 - 3,455 in California
 - 1,272 in Los Angeles area
- **Employees**
 - 50,000+ in US
 - 5,900 in California
 - 1,900 in Los Angeles area

UPRR Commerce Yard

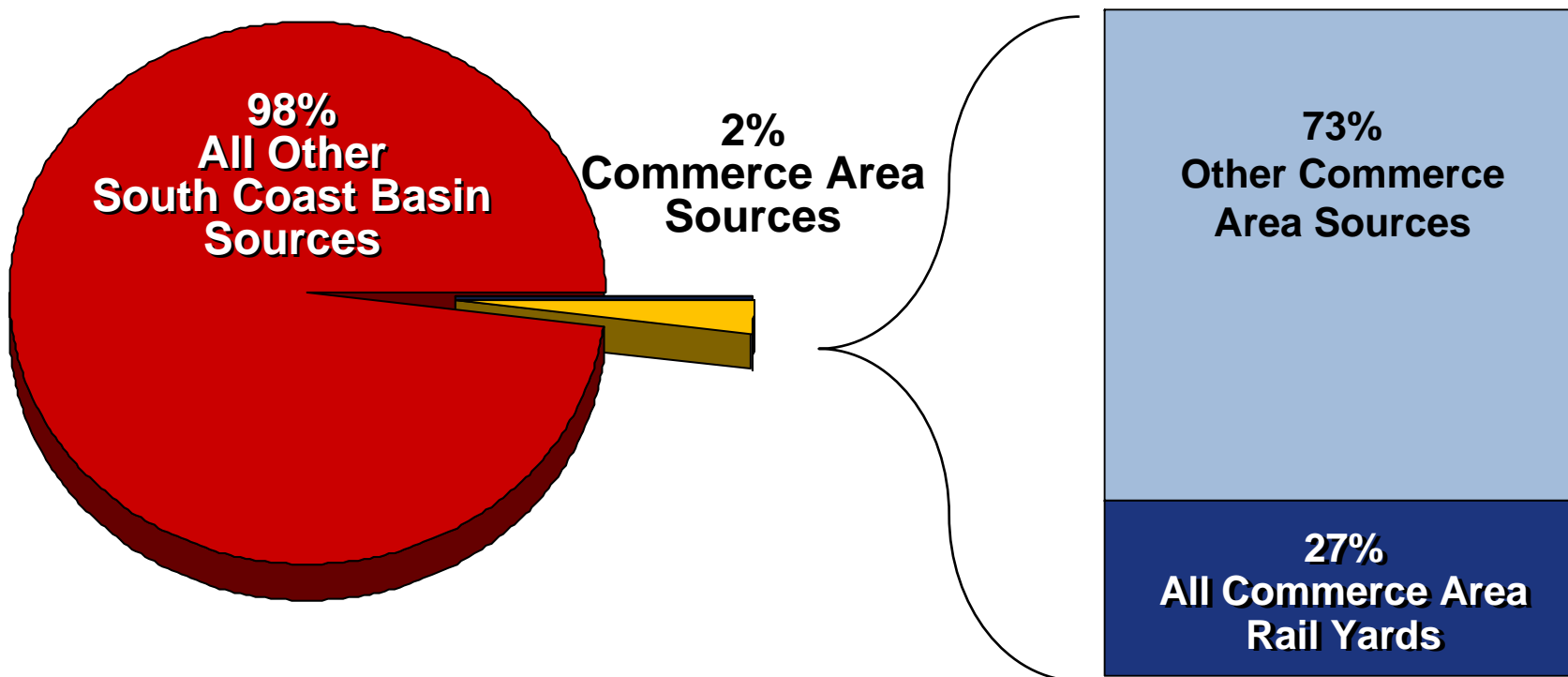
Facility Overview

- **160-acre Cargo-handling Facility**
- **Yard Includes:**
 - **5 Receiving Tracks**
 - **6 Tracks Used to Sort Rail Cars by Destination**
 - **9 Tracks Used to Maintain or Repair Rail Cars or Locomotives**
 - **8 Tracks Used to Load and Unload Containers or Trailers From Rail Cars, and for Train Departures**
- **Facility Operates 24 Hours a Day, 365 Days a Year**
- **About 40 Trains a Day Operate Through or Originate / Terminate at UP's Commerce Yard**



Commerce Area Yards

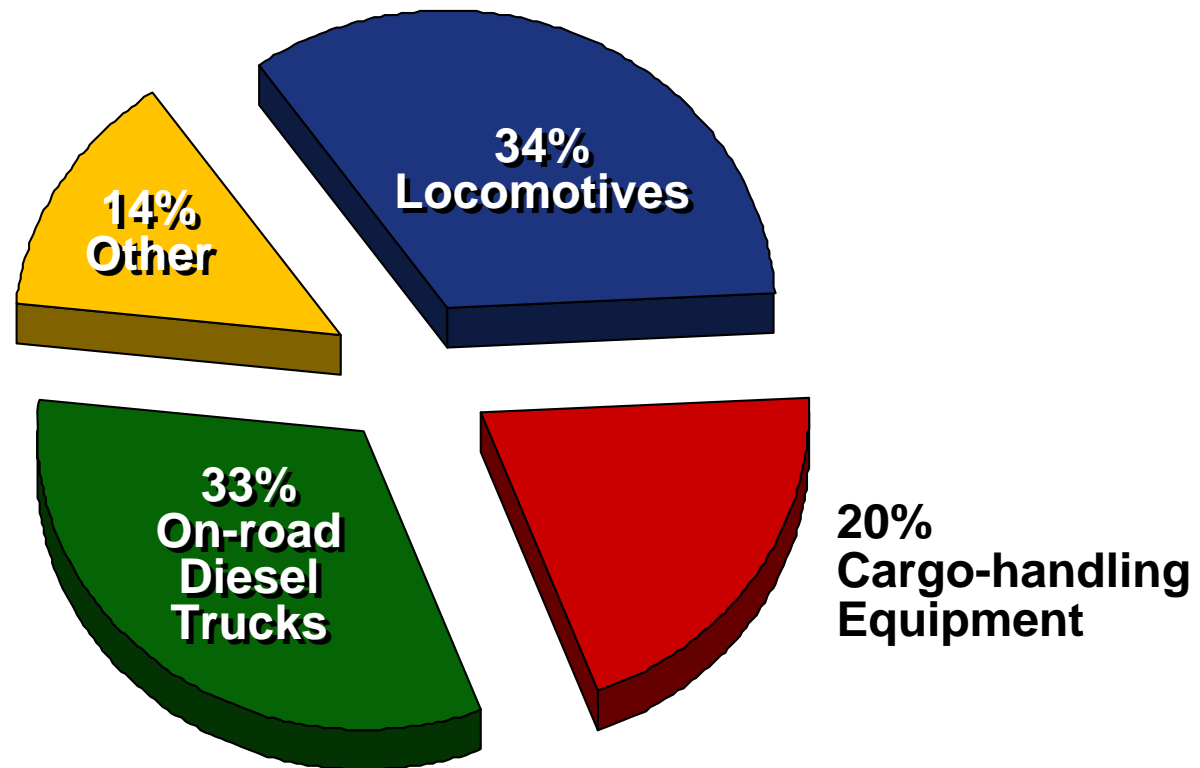
Comparison with Other Sources of DPM Emissions



Total DPM Emissions – All South Coast Sources: 7750 tons per year

All Commerce Area Yards

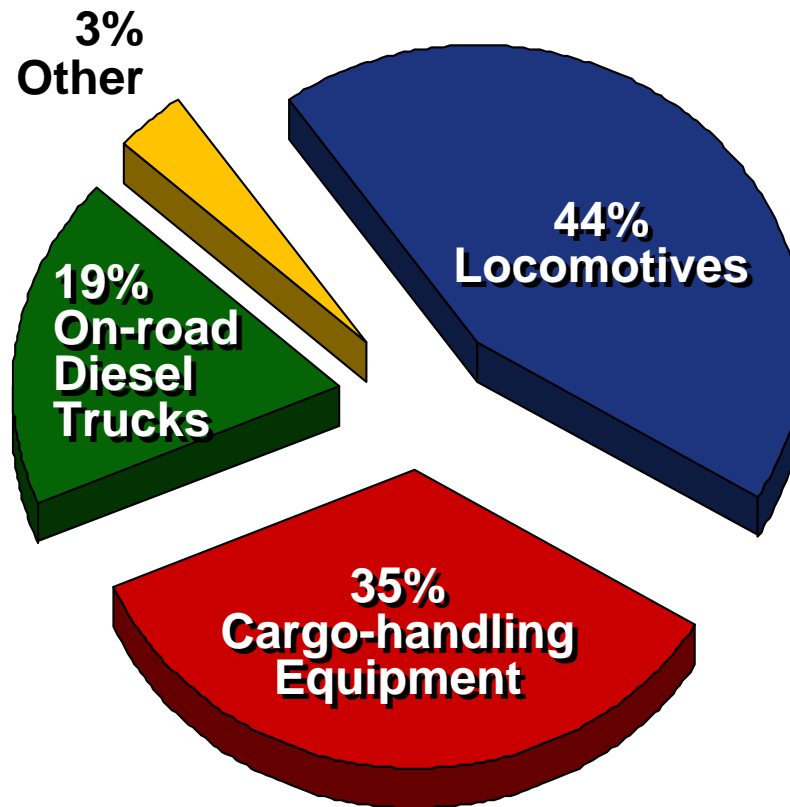
Sources of Diesel Particulate Matter (DPM) Emissions



Total DPM Emissions – All Commerce Area Yards: 40.5 tons per year

UPRR Commerce Yard

Sources of Diesel Particulate Matter (DPM) Emissions



Total DPM Emissions – UPRR Commerce Yard: 11.2 tons per year

UPRR Commerce Yard

UP Emission Reduction Measures

- **Increased Use of Idle Control Devices (ICD's) for Auto Start-Stop of Locomotives**
 - **76% of L.A. Area Intrastate Fleet Equipped Now**
 - **100% of CA Intrastate Units Equipped by June, 2008**
 - **35% of UPRR Total Fleet**
 - **All New Locomotives Since 2001 Have Factory ICD's**
- **Aggressive Fuel Conservation Efforts – Since 1995**
 - **12% Improvement in Fuel Efficiency**

UPRR Commerce Yard

UP Emission Reduction Measures

- **Modernizing Cargo-handling Equipment**
- **Continued Acquisition of Refrigerated Freight Cars As Fleet Is Upgraded**
- **Dispensing only CARB Ultra-low Sulfur Diesel in CA**
- **Continued Aggressive Employee Training**
 - **Fuel Conservation Via Use of Simulators**
 - **Locomotive Shutdown Procedures**
 - **Visible Emissions**

UPRR Commerce Yard

UP Emission Reduction Measures

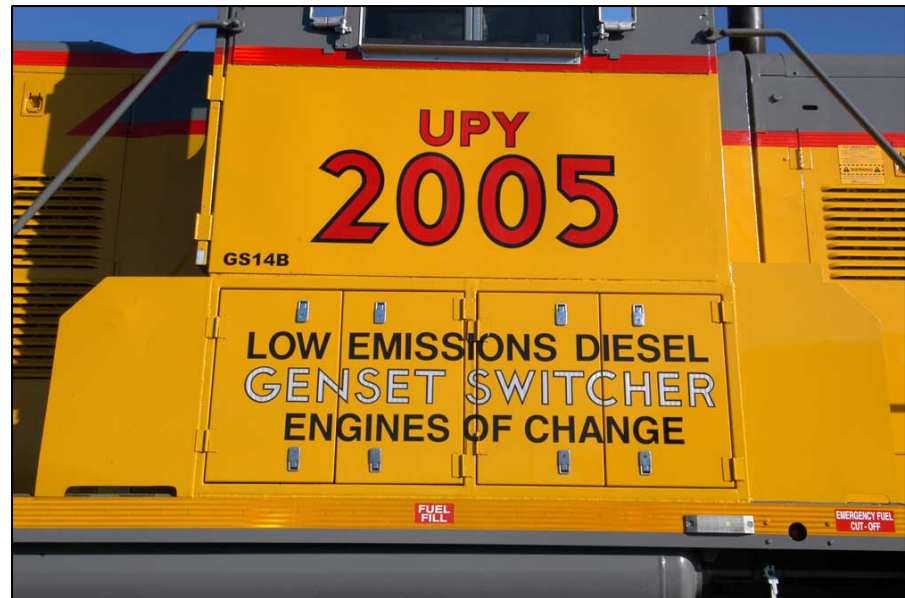
- **Continued Aggressive Acquisition & Use of Tier 2 Road Locomotives With Advanced Emission Controls**
 - 820+ Tier 2 Locomotives by December, 2007
 - 2,600+ Tier 0, 1, or 2 From 2000 Thru 2006
- **Continued Remanufacture of Older Locomotives With New, Lower Emitting Components**
 - 1,800 Units Since 2000
- **On Target for Tier 2 Fleet Average in SoCal by 2010**



UPRR Commerce Yard

UP Emission Reduction Measures

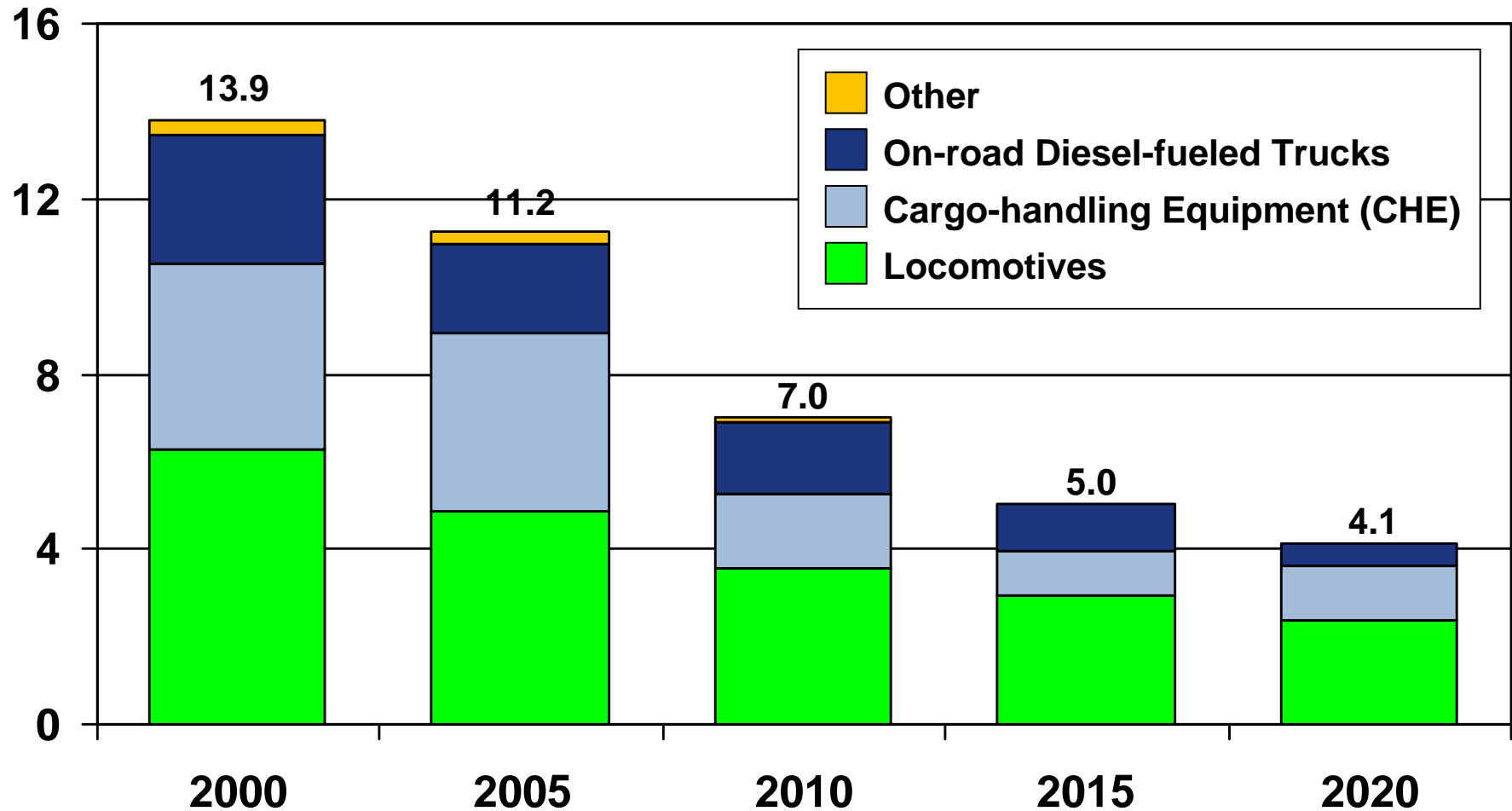
- **Ultra Low Emitting Locomotives (ULEL's)**
 - Reduce NOx & PM Emissions by +/- 85%
 - Reduce Fuel Consumption by Over 16 %
- **Expanded Use of Technologically Advanced Switch Locomotives**
 - Gensets - 10
in Commerce NOW
 - Gensets - 61
in South Coast by July
 - Green Goats - 12
in South Coast NOW



UPRR Commerce Rail Yard

DPM Emissions by Source (Calendar Years 2000-2020)

Emissions (Tons / Year)



UPRR Commerce Yard - Emission Trends

- **19% Reduction From 2000 to 2005
(ARB Baseline Year)**
- **63% Reduction From 2005 to 2020**
- **Overall 70% Reduction From 2000 to 2020,
Including Growth**
- **80% Reduction in DPM Emissions From 2005
to 2020 Per Ton of Cargo Handled**

THE ROAD TO THE FUTURE ISN'T A ROAD AT ALL.



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